

My comments on the docket:

## B.1. Defining Broadband Capability

B.1. para 16:

Given the stated assumption that broadband should encompass Internet-based video, it seems essential to me that the definition of broadband should specify a minimum allowed usage, as well as a minimum allowed speed, for a service to qualify.

Several "broadband" vendors are attempting to introduce usage caps; these will mean that although the connections they offer are fast enough to qualify as broadband, you will only be able to use them for a few hours a month before being hit with punitive overuse fees.

Do I have broadband if I have a 6mbps connection, but can only download for 7 hours a month? I don't think so. Do I have broadband if downloading a couple of episodes of a TV show will put me over the limit? Again, I think not.

B.1. para 20:

There are three key measurements that need to be considered when deciding whether a service counts as adequate to be termed broadband.

The first is the bandwidth or speed of the connection. This is typically the only measurement that Internet service providers specify at all in their sales literature, and they don't even guarantee that.

The second key measurement is the latency of the connection. A satellite Internet connection has excellent bandwidth, but its high latency makes it useless for applications like online video conferencing.

The third measurement is capacity--how much data you can actually move via the connection, before hitting artificial or inherent limits. For example, mobile phone 3G networks may be fast, but if you try transferring large quantities of data via them, you will

quickly get cut off by your service provider or charged very high fees.

## B.2. Defining Access to Broadband

### B.2. para 24:

It seems that ISPs are attempting to subvert the principle of allowing consumers to access the material of their choice, and run the applications of their choice.

Specifically, in order to protect the market for their cable TV offerings and prevent free market a la carte TV service, providers such as Time Warner are attempting to impose terms and conditions which make it prohibitively expensive to use Internet video services.

### B.2. para 25:

With this attempt to eliminate Internet video in mind, the commission should step in and impose a certain amount of regulation around how much ISPs are allowed to charge for data transfer.

I would suggest that limits be imposed on overall per-GB data charges. The limits should be calculated based on current free-market costs for backbone Internet bandwidth, as the remaining infrastructure cost to ISPs is independent of how much data customers transfer.

That is: my cable company's costs for their cable are the same whether I transfer 1GB this month, or 100GB. Their additional cost in the latter case is the cost of backbone Internet bandwidth to get my data to its destination, so that cost should be the basis for regulating how much they are allowed to charge me.

### B.2. para 26:

A key benefit to me of broadband Internet has been the ability to stream, upload and download video.

I now use streaming video chat as my primary tool for keeping in touch with my parents. I talk to them almost every weekend. I also

create short movies of places I go and things I see, and upload them to video sharing sites for my family and friends to watch.

On the consumption side, I purchase and download foreign TV and radio shows which are unavailable via US cable TV. My wife downloads German-language TV and radio which is not available from US cable or satellite providers, including educational material.

This is why I feel that it is so important that US broadband providers are not allowed to cripple their customers' network connections to make video applications prohibitively expensive (or even to ban them outright!)

### C.1. Market mechanisms

#### C.1. para 37:

One aspect of bringing America's broadband up to international standards, is ensuring that telecoms providers actually invest in infrastructure and upgrade their networks.

The providers claim that they need to introduce usage-based billing (per GB charges) in order to raise funds for improved infrastructure. I propose that regulators allow ISPs to introduce usage-based billing only on conditions that they upgrade customer connections to certain minimum standards (for example, DOCSIS 3.0 modems for cable).

Combining this with regulation of the maximum per-GB charge allowed [see notes on B.2. para 25 above] should ensure that service providers are incented to upgrade their networks, while preventing excessive price-gouging.

#### C.5. para 47:

To reiterate: broadband suppliers are introducing usage limits and per-GB data charges when those limits are passed. They are doing this in order to effectively discriminate against particular classes of service--specifically, TV over Internet and other video download services. (Hulu, iTunes store, Amazon downloads, Netflix, and so on.)

At the same time, broadband providers are often setting up their own streaming TV services, not subject to the bandwidth limits. For example, Time Warner have begun to offer ESPN video via Internet, at the same time as they try to prevent people from using other video sites by imposing usage caps.

#### D.1. Affordability

##### D.1. para 54:

Again, I would urge the FCC to step in and regulate overall per-GB prices for data transfer. There is a major disparity between the price of bandwidth in the web hosting and backbone connectivity markets--where there is a lot of competition--and the local broadband services market, where consumers are usually subject to a monopoly or duopoly.

As I write, backbone Internet bandwidth is around 3 cents per GB. Managed hosting of streaming video is around 10-15 cents per GB. Yet proposed data transfer charges from Time Warner were \$1 per GB.

#### F.7. Education

##### F.7. para 90:

One thing I see missing from the docket is consideration of the importance of continuing education throughout life. I work in the computer industry. The pace of change in my field is rapid, and I must continually update my skills and learn new skills, if I wish to remain employable.

Broadband Internet is already essential to my self-education. I access textbooks online through my employer; I download white papers and research materials. I work on open source software projects. I watch video recordings of conference presentations, and download audio podcasts.

All of this depends on my having a broadband Internet connection, and the ability to download at least several gigabytes of data per week.

The way I see it, every American \*ought\* to be able to do what I do. Education is something people should take part in for their whole lives. The world is changing too quickly for it to be safe to graduate and then sit back and watch.